

WHAT IS CLAIMED IS

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A communication apparatus comprising:
means for transmitting/receiving electronic mail
data by connecting to the Internet; and

5 means for communicating the electronic mail data
having facsimile-format image data attached by
performing communication pertaining to functional
information in addition to the communication of the
electronic mail data.

10 2/. A communication apparatus comprising:
first connecting means for connecting to a local
area network and/or second connecting means for
connecting to a wide area network;

first communicating means for
15 transmitting/receiving electronic mail data by
connecting to the Internet by one of said first and
second connecting means; and

second communicating means for performing
facsimile communication by connecting to the wide area
20 network by said second connecting means,

wherein communication concerning functional
information is performed when said first communicating
means communicates electronic mail data having image
data attached.

25 3. The apparatus according to claim 2, wherein if
there is no response to the communication concerning

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functional information from a communication partner
apparatus with which said first communicating means
communicates, electronic mail data is sent to said
first communicating means by attaching image data
5 corresponding to the most common one of image data
standards.

4. The apparatus according to claim 2, wherein if
there is no response to the communication concerning
functional information from a communication partner
10 apparatus with which said first communicating means
communicates and if communication by said second
communicating means is designated and the number of the
other party is designated, said second communicating
means communicates image data.

5. The apparatus according to claim 2, wherein if
during the communication by said first communicating
means a communication error occurs in communication of
image data and in communication pertaining to delivery
confirmation, retransmission is performed by selecting
15 the number of times of retransmission from a plurality
of individually preset numbers of times of
retransmission including 0, in accordance with the
contents of the communication error.

6. The apparatus according to claim 5, wherein no
25 retransmission is performed if the contents of the

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communication error indicate that there is no destination address.

7. The apparatus according to claim 2, wherein if a communication error occurs during the communication by said first communicating means, electronic mail data describing information concerning communication error information is transmitted to said communication partner apparatus or a previously designated electronic mail address.

8. The apparatus according to claim 7, wherein if a communication error occurs during the communication by said first communicating means, electronic mail data having image data attached is transmitted to said communication partner apparatus or to a previously designated electronic mail address.

9. The apparatus according to claim 2, wherein if a communication error occurs during the communication by said first communicating means, communication is performed in accordance with designation of whether transmission of electronic mail by attaching image data by the most common one of image standards or retransmission is to be performed.

10. The apparatus according to claim 9, wherein the most common one of image standards is an MH coding system considered to be essential of functional information defined by ITU-T T.30, by which a

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resolution in a main scan direction is 8 pels/mm, a resolution in a sub-scan direction is 3.85 lines/mm, and an original width is 208 mm of A4 size.

11. The apparatus according to claim 2, wherein if
5 the form of connection to said first communicating means is dial-up connection, communication concerning functional information, communication of a text, and communication concerning delivery confirmation are successively performed by a single call.

10 12. The apparatus according to claim 2, wherein if the form of connection to said first communicating means is dial-up connection, communication concerning functional information, communication of a text, and communication concerning delivery confirmation are
15 separately performed by at least two calls.

13. The apparatus according to claim 2, wherein if the form of connection to said first communicating means is dial-up connection, communication concerning functional information, communication of a text, and
20 communication concerning delivery confirmation are successively performed by a single call or separately performed by different calls.

14. The apparatus according to claim 11, wherein if the form of connection to said first communicating
25 means is dial-up connection, a line is once

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disconnected to wait for timeout processing in communication.

15. The apparatus according to claim 11, wherein if the form of connection to said first communicating means is dial-up connection, a line is once
5 disconnected to wait for timeout processing in communication, and timeout is selectively verified by recall.

16. The apparatus according to claim 2, wherein
10 functional information of a destination apparatus is acquired by communication using one of said first and second communicating means in the past, a database for holding a maximum capability supported by each function is registered or updated, and, if said first
15 communicating means is to communicate data, the data is converted into a standard registered in said database and communicated.

17. The apparatus according to claim 16, wherein whether image data pertaining to said database is to be
20 converted is set for each function item registered in said database.

18. The apparatus according to claim 16, wherein if an address of the other party with respect to said first communicating means is input, display related to
25 functional information on an operation panel is switched on the basis of information in said database.

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19. The apparatus according to claim 2, wherein if a communication error occurs in said first communicating means, said second communicating means communicates image data if communication by said second

5 communicating means is designated and a telephone number of the other party is set.

20. The apparatus according to claim 2, further comprising means for acquiring function identification information of a transmission destination by looking up
10 a database stored in connection with functional information in an electronic mail server connected by dial-up connection.

21. The apparatus according to claim 2, wherein when said first communicating means is to perform
15 communication concerning the functional information, of pieces of functional information defined by ITU-T T.30, functional information pertaining to communication such as a handshake rate, a modem rate, a minimum transmission time, the presence/absence of error
20 correction mode, and the presence/absence of G4 function need not be exchanged.

22. A communication apparatus comprising:
first communicating means for
transmitting/receiving electronic mail data by
25 connecting to the Internet; and

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means for sending electronic mail by attaching image data by one of image standards which a communication partner is most likely to be able to process, if a communication error occurs when said

5 first communicating means communicates electronic mail data having image data attached.

23. A communication apparatus comprising:

first communicating means for transmitting/receiving electronic mail data by
10 connecting to the Internet;

means for designating an image format such as a resolution of image data; and

means for requesting functional information, pertaining to the designated image format, of the other
15 party,

wherein functional information of the other party is not requested if the designated image format is an image format which the other party is most likely to be able to process.

20 24. A communication apparatus comprising:

first communicating means for transmitting/receiving electronic mail data by connecting to the Internet; and

an identifier for relating pieces of electronic
25 mail concerning pieces of functional information pertaining to the same process to each other, when said

first communicating means is to communicate electronic mail data having image data attached.

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partner apparatus and performed by said first communication procedure and if communication by said second communication procedure and the number of the other party are designated.

5 28. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to perform retransmission, if during the communication by said communication procedure a communication error occurs in communication of image data and in
10 communication pertaining to delivery confirmation, by selecting the number of times of retransmission from a plurality of numbers of times of retransmission including 0, which are individually set in advance, in accordance with the contents of the communication error.

15 29. The medium according to claim 28, wherein said storage medium stores a program for causing a computer to perform no retransmission if the contents of the communication error indicate that there is no destination address.

20 30. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to transmit, if a communication error occurs during the communication by said first communication procedure, electronic mail data describing information concerning
25 communication error information to said communication

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partner apparatus or to a previously designated electronic mail address.

31. The medium according to claim 30, wherein said storage medium stores a program for causing a computer to transmit, if a communication error occurs during the communication by said first communication procedure, electronic mail data having image data attached to said communication partner apparatus or to a previously designated electronic mail address.

32. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to perform communication, if a communication error occurs during the communication by said first communication procedure, in accordance with designation of whether transmission of electronic mail by attaching image data by the most common one of image standards or retransmission is to be performed.

33. The medium according to claim 32, wherein said storage medium stores a program for causing a computer to perform communication such that the most common one of image standards is an MH coding system considered to be essential of functional information defined by ITU-T T.30, by which a resolution in a main scan direction is 8 pels/mm, a resolution in a sub-scan direction is 3.85 lines/mm, and an original width is 208 mm of A4 size.

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34. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to successively perform communication concerning functional information, communication of a text, and communication concerning delivery confirmation by a single call, if the form of connection by said first communication procedure is dial-up connection.

35. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to separately perform communication concerning functional information, communication of a text, and communication concerning delivery confirmation by at least two calls, if the form of connection by said first communication procedure is dial-up connection.

36. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to successively perform or separately perform communication concerning functional information, communication of a text, and communication concerning delivery confirmation by a single call or by different calls, if the form of connection by said first communication procedure is dial-up connection.

37. The medium according to claim 34, wherein said storage medium stores a program for causing a computer to once disconnect a line to wait for timeout processing in communication, if the form of connection

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by said first communication procedure is dial-up connection.

38. The medium according to claim 34, wherein said storage medium stores a program for causing a computer
5 to once disconnect a line to wait for timeout processing in communication and selectively verify timeout by recall, if the form of connection by said first communication procedure is dial-up connection.

39. The medium according to claim 25, wherein said
10 storage medium stores a program for causing a computer to acquire functional information of a destination apparatus by communication using one of said first and second communication procedures in the past, register or update a database for holding a maximum capability
15 supported by each function, and, if communication is to be performed by said first communication procedure, convert an image standard designated by a user into a standard registered in said database on the basis of information of said database and communicate the image.

20 40. The medium according to claim 39, wherein said storage medium stores a program for causing a computer to set whether image data pertaining to said database is to be converted for each function item registered in said database.

25 41. The medium according to claim 39, wherein said storage medium stores a program for causing a computer

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to switch display related to functional information on an operation panel on the basis of information in said database, if an address of the other party is input in said first communication procedure.

5 42. The medium according to claim 25, wherein said storage medium stores a program for causing a computer to communicate image data by said second communication procedure, if a communication error occurs in said first communication procedure and if communication by
10 said second communication procedure is designated and a telephone number of the other party is set.

43. The medium according to claim 25, wherein said storage medium having the communication function stores a program for causing a computer to execute a procedure
15 of acquiring function identification information of a transmission destination by looking up a database stored in connection with functional information in an electronic mail server connected by dial-up connection.

44. The medium according to claim 25, wherein said
20 storage medium stores a program for causing a computer not to exchange, of pieces of functional information defined by ITU-T T.30, functional information pertaining to communication such as a handshake rate, a modem rate, a minimum transmission time, the
25 presence/absence of error correction mode, and the presence/absence of G4 function, when communication

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concerning functional information of a storage medium having the communicating function is to be performed by said first communication procedure.

45. A computer-readable storage medium storing a program for causing a computer to execute a first communication procedure of transmitting/receiving electronic mail data by connecting to the Internet and a procedure of, if a communication error occurs while electronic mail data having image data attached is communicated by said first communication procedure, sending electronic mail by attaching the image data by one of image standards which the other party is most likely to be able to process.

46. A computer-readable storage medium comprising a first communication procedure of transmitting/receiving electronic mail data by connecting to the Internet, a procedure of designating an image format such as a resolution of image data, and a procedure of requesting functional information, pertaining to the designated image format, of the other party, and

storing a program for causing a computer not to request functional information of the other party if the designated image format is an image format which the other party is most likely to be able to process.

47. A computer-readable storage medium storing a program for causing a computer to execute a first

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communication procedure of transmitting/receiving
electronic mail data by connecting to the Internet and
a procedure of, when electronic mail data having image
data attached is to be communicated by said first

5 communication procedure, relating electronic mail
concerning pieces of functional information pertaining
to the same process, electronic mail of a text, and
electronic mail concerning delivery confirmation to
each other.

10 48. The apparatus according to claim 2, wherein said
wide area network is one of PSTN and ISDN.

~~49.~~ A communication method comprising:

the first communication step of
transmitting/receiving electronic mail data by
15 connecting to the Internet; and

the step of sending, if a communication error
occurs while electronic mail having image data attached
is communicated in said first communication step, the
electronic mail by attaching the image data by one of
20 image standards which the other party is most likely to
be able to process.

~~50.~~ A communication method comprising:

the first communication step of
transmitting/receiving electronic mail data by
25 connecting to the Internet;

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the step of designating an image format such as a resolution of image data; and

the step of requesting functional information, pertaining to the designated image format, of the other party,

wherein if the designated image format is an image format which the other party is most likely to be able to process, functional information of the other party is not requested.

10 51. A communication method comprising the steps of:
transmitting/receiving electronic mail data by connecting to the Internet; and

performing communication concerning functional information, when electronic mail data having
15 facsimile-format image data attached is communicated, in addition to the communication of the electronic mail data.

52. A communication system comprising:
means for transmitting/receiving electronic mail
20 data by a plurality of communication apparatuses connected to the Internet; and

means for performing communication concerning functional information, when electronic mail data having facsimile-format image data attached is
25 communicated between said communication apparatuses, in

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addition to the communication of the electronic mail data.

53. A communication apparatus comprising:

first connecting means for connecting to a local
5 area network and/or second connecting means for
connecting to a wide area network;

first communicating means for
transmitting/receiving electronic mail data by
connecting to the Internet by one of said first and
10 second connecting means; and

means for receiving information on delivery
confirmation by said first communicating means,

wherein when said first communicating means
communicates electronic mail data having image data
15 attached, a communication result report is output which
indicates one of information representing that
communication of image information is successful,
information representing that communication of image
information has failed, information representing that a
20 communication result of image information is unverified,
and information representing that the electronic mail
data has been communicated by attaching image data
corresponding to the most common one of image data
standards.

25 54. The apparatus according to claim 53, further
comprising second communicating means for performing

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facsimile communication by connecting to the wide area network by said second connecting means.

55. The apparatus according to claim 54, wherein when said second communicating means performs communication,

5 two types of communication result reports indicating information representing that communication of image information is successful and information representing that communication of image information has failed are output.

10 56. A communication apparatus comprising:

first communicating means for transmitting/receiving electronic mail data by connecting to the Internet; and

15 second communicating means for performing facsimile communication by connecting to a wide area network,

wherein when said first communicating means communicates electronic mail data having image data attached, a communication result report is output which
20 indicates one of information representing that communication of image information is successful, information representing that communication of image information has failed, information representing that a communication result of image information is unverified,
25 and information representing that the electronic mail data has been communicated by attaching image data

[illegible]

5 communication of image information is successful and
information representing that communication of image
information has failed is output.

10 58. A communication method comprising the steps of:
transmitting/receiving electronic mail data by
connecting to the Internet; and

~~59.~~ A communication system comprising:

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means for transmitting/receiving electronic mail data by a plurality of communication apparatuses connected to the Internet; and

means for outputting, from said communication apparatuses, when electronic mail data having image data attached is communicated, a communication result report indicating one of information representing that communication of image information is successful, information representing that communication of image information has failed, information representing that a communication result of image information is unverified, and information representing that the electronic mail data has been communicated by attaching image data corresponding to the most common one of image data standards.

60. A computer-readable storage medium storing a program for causing a computer to execute a procedure of the communication method according to claim 58.

~~61.~~ A communication apparatus comprising:

first connecting means for connecting to a local area network and/or second connecting means for connecting to a wide area network;

first communicating means for transmitting/receiving electronic mail data by connecting to the Internet by one of said first and second connecting means; and

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1 a database for holding information pertaining to
2 functional information,

62. The apparatus according to claim 61, further comprising second communicating means for performing facsimile communication by connecting to the wide area network by said second connecting means.

64. The apparatus according to claim 63, wherein in accordance with whether the form of connection to said first communicating means is dial-up connection via said wide area network or dedicated-line IP connection,

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whether communication concerning functional information with respect to a communication partner apparatus registered in said electronic mail address registration function is to be performed is individually set during
5 registration of said electronic mail address registration function.

65. The apparatus according to claim 63, wherein in accordance with whether the form of connection to said first communicating means is dial-up connection via
10 said wide area network or dedicated-line IP connection, communication concerning functional information is performed with respect to a communication partner apparatus registered in said electronic mail address registration function and, if no functional information
15 of said communication partner apparatus is acquired, functional information corresponding to the most common one of image data standards is registered, during registration of said electronic mail address registration function.

20 66. The apparatus according to claim 61, further comprising means for transmitting the contents of said database to a communication partner apparatus, said means notifying said communication partner apparatus of information registered in said database each time said
25 database is updated or at any arbitrary timing.

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67. The apparatus according to claim 61, further comprising means for transmitting the contents of said database to an electronic mail server for distributing electronic mail data to a connected communication partner apparatus, said means notifying said electronic mail server of information registered in said database each time said database is updated or at any arbitrary timing.

68. A communication system comprising a plurality of communication apparatuses each of which comprises first connecting means for connecting to a local area network and/or second connecting means for connecting to a wide area network, first communicating means for transmitting/receiving electronic mail data by connecting to the Internet by one of said first and second connecting means, and a database for holding information concerning functional information, and which communicates electronic mail data having image data attached by said first communicating means,

wherein on the basis of information about broadcast of a database pertaining to the functional information from an electronic mail server to which said plurality of communication apparatuses are connected and which distributes electronic mail data to said plurality of communication apparatuses, said database of each communication apparatus is updated to

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allow said plurality of communication apparatuses to share the contents of said databases.

69. The system according to claim 68, further comprising second communicating means for performing
5 facsimile communication by connecting to the wide area network by said second connecting means.

70. The system according to claim 68, wherein when said electronic mail server distributes electronic mail data having facsimile image data attached to said
10 communication apparatus connected, delivery confirmation is returned to said communication apparatus connected, without distributing the electronic mail data having facsimile information attached to said communication apparatus or after the
15 electronic mail data is distributed to said communication apparatus, after said electronic mail server completes data reception.

71. A communication apparatus comprising:
first communicating means for
20 transmitting/receiving electronic mail data by connecting to the Internet;
means for designating an image format such as a resolution of image data; and
means for requesting functional information,
25 pertaining to the designated image format, of a communication partner,

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wherein if functional information of said communication partner is known, the functional information of said communication partner is not requested.

5 72. A communication apparatus comprising:

first communicating means for transmitting/receiving electronic mail data by connecting to the Internet;

10 second communicating means for performing facsimile communication by connecting to a wide area network; and

a database for holding information concerning functional information,

15 wherein said first communicating means communicates electronic mail data having image data attached.

20 73. A computer-readable storage medium storing a program for causing a computer to execute a first communication procedure of transmitting/receiving electronic mail data by connecting to the Internet and a second communication procedure of performing facsimile communication by connecting to a wide area network, and storing a program for causing a computer to search a database for information concerning
25 functional information and communicate electronic mail

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data having image data attached by said first communication procedure.

74. The medium according to claim 73, wherein said storage medium stores a program for causing a computer
5 to execute an electronic mail address registration function for registering an address of a communication partner, and

a program for causing a computer to perform communication pertaining to functional information,
10 when an electronic mail address is registered in said electronic mail address registration function, with a communication partner apparatus registered in said electronic mail address registration function, and register or update the functional information with
15 respect to an item, corresponding to the registered electronic mail address, in said database.

75. The medium according to claim 74, wherein said storage medium stores a program for causing a computer
20 to individually set, in accordance with whether the form of connection to the Internet is dial-up connection via a wide area network or dedicated-line IP connection, whether communication concerning functional information with respect to a communication partner apparatus registered in said electronic mail address
25 registration function is to be performed, during

registration of said electronic mail address
registration function.

76. The medium according to claim 74, wherein said storage medium stores a program for causing a computer to perform communication concerning functional information, in accordance with whether the form of connection to the Internet is dial-up connection via a wide area network or dedicated-line IP connection, with a communication partner apparatus registered in said electronic mail address registration function and, if no functional information of said communication partner apparatus is acquired, register functional information corresponding to the most common one of image data standards, during registration of said electronic mail address registration function.

77. The medium according to claim 73, wherein said storage medium stores a program for causing a computer to execute a procedure of transferring the contents of said database to a communication partner apparatus, and a program for causing a computer to notify another communication partner apparatus of information registered in said database each time said database is updated or at any arbitrary timing.

78. The medium according to claim 73, wherein said storage medium stores a program for causing a computer to execute a procedure of transferring the contents of

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80. The system according to claim 79, wherein when said electronic mail server distributes electronic mail data having facsimile image data attached to said communication apparatus connected, delivery

5 confirmation is returned to said communication apparatus connected, without distributing the electronic mail data having facsimile information attached to said communication apparatus or after the electronic mail data is distributed to said
10 communication apparatus, after said electronic mail server completes data reception.

81. A computer-readable storage medium storing a program for causing a computer to execute a first communication procedure of transmitting/receiving
15 electronic mail data by connecting to the Internet, a procedure of designating an image format such as a resolution of image data, and a procedure of requesting functional information, pertaining to the designated image format, of the other party, and

20 a program for causing a computer not to request functional information of the other party if the functional information of the other party is known.

82. The apparatus according to claim 61, wherein said wide area network is one of PSTN and ISDN.

25 83. The system according to claim 68, wherein said wide area network is one of PSTN and ISDN.

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84. The apparatus according to claim 71, wherein said wide area network is one of PSTN and ISDN.

85. A communication method of transmitting/receiving electronic mail data by connecting to the Internet,

5 comprising the steps of:

designating an image format such as a resolution of image data;

requesting functional information, pertaining to the designated image format, of a communication partner
10 apparatus; and

if functional information of said communication partner is known, not requesting the functional information of said communication partner.

86. A communication method of transmitting/receiving
15 electronic mail data by connecting to the Internet, comprising the steps of:

performing communication pertaining to functional information, when a mail address is registered in an electronic mail address registration function, with a
20 communication partner apparatus registered in said electronic mail address registration function; and

registering or updating the functional information with respect to an item, corresponding to the registered electronic mail address, in a database.

25 87. The method according to claim 86, wherein in accordance with whether the form of connection to the

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means is dial-up connection, a line is once disconnected to wait for timeout processing in communication, and timeout is selectively verified by recall.

5 91. The apparatus according to claim 13, wherein if the form of connection to said first communicating means is dial-up connection, a line is once disconnected to wait for timeout processing in communication.

10 92. The apparatus according to claim 13, wherein if the form of connection to said first communicating means is dial-up connection, a line is once disconnected to wait for timeout processing in communication, and timeout is selectively verified by
15 recall.

93. The medium according to claim 35, wherein said storage medium stores a program for causing a computer to once disconnect a line to wait for timeout processing in communication, if the form of connection
20 by said first communication procedure is dial-up connection.

94. The medium according to claim 35, wherein said storage medium stores a program for causing a computer to once disconnect a line to wait for timeout
25 processing in communication and selectively verify

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timeout by recall, if the form of connection by said first communication procedure is dial-up connection.

95. The medium according to claim 36, wherein said storage medium stores a program for causing a computer
5 to once disconnect a line to wait for timeout processing in communication, if the form of connection by said first communication procedure is dial-up connection.

96. The medium according to claim 36, wherein said
10 storage medium stores a program for causing a computer to once disconnect a line to wait for timeout processing in communication and selectively verify timeout by recall, if the form of connection by said first communication procedure is dial-up connection.

97. The apparatus according to claim 54, wherein said
15 wide area network is one of PSTN and ISDN.

98. The apparatus according to claim 55, wherein said wide area network is one of PSTN and ISDN.

99. The apparatus according to claim 56, wherein said
20 wide area network is one of PSTN and ISDN.

100. The apparatus according to claim 72, wherein said wide area network is one of PSTN and ISDN.